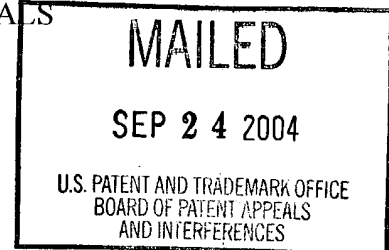


The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARIANA MUNTEANU
And KUO-HSING HWANG



Appeal No. 2004-1691
Application 09/702,667

ON BRIEF

Before WARREN, OWENS and WALTZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer and supplemental answer,¹ and appellants, in the brief and reply brief, and based on our review, find that we cannot sustain the grounds of rejection advanced on appeal:

claims 1, 7 and 8 stand rejected under 35 U.S.C. § 102(b) as anticipated by Ohkijima et al. (Ohkijima) as evidenced by appellants' admissions (specification, page 4, lines 15-16) (answer, pages 5-8 and 13-15);

claims 1 and 5 through 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

¹ The supplemental answer mailed May 6, 2004, is in response to our remand entered April 14, 2004, in Appeal No. 2004-0813 in the present application.

Moroishi et al. (Moroishi) in view of Miyazaki et al. (Miyazaki) and Zhang et al. (Zhang) (answer, pages 8-10 and 15-17);

claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Moroishi in view of Miyazaki and Zhang as applied above, and further in view of Yoshikawa et al. (Yoshikawa), appellants' admissions (specification, page 4; lines 15-18) and Song et al. (Song) (answer, pages 10-12); and,

claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Moroishi in view of Miyazaki and Zhang as applied above, further in view of Ross et al. (Ross) (answer, pages 12-13).^{2,3}

It is well settled that in order for the examiner to establish a *prima facie* case of anticipation, each and every element of the claimed invention, arranged as required by the claim, must be found in a single prior art reference, either expressly or under the principles of inherency. *See generally, In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677-78, 7 USPQ 1315, 1317 (Fed. Cir. 1988); *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984). Whether the teachings and inferences that one skilled in this art would have found in the disclosure of an applied reference would have placed this person in possession of the claimed invention, taking into account this person's own knowledge of the particular art, is a question of fact. *See generally, In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995), and cases cited therein (a reference anticipates the claimed method if the step that is not disclosed therein "is within the knowledge of the skilled artisan."); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968) ("[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.").

The examiner can reach the conclusion that, *prima facie*, the magnetic recording media of Ohkijima Example 26 as reported in Ohkijima Table 1-1 (cols. 9-10) falls within the rejected

² The examiner has withdrawn the grounds of rejection applied to appealed dependent claims 3, 4 and 9, allowing the claims in substance (answer, page 4).

³ Appealed claims 1 through 9 are all of the claims in the application. See the appendix to the brief.

claims⁴ even though the reference is silent with respect to the claim limitation expressed in appealed claim 1 as “the first magnetic layer exhibits a higher signal-to-media-noise ratio (SMNR) than the second magnetic layer,” by pointing to evidence in the record establishing that it *reasonably appears* that Ohkijima Example 26 is identical to the claimed magnetic media encompassed by the appealed claims, thus shifting the burden to appellants to establish otherwise. See generally, *In re Spada*, 911 F.2d 705, 708-09, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990) (“The Board held that the compositions claimed by Spada ‘appear to be identical’ to those described by Smith. While Spada criticizes the usage of the word ‘appear,’ we think that it was reasonable for the PTO to infer that the polymerization by both Smith and Spada of identical monomers, employing the same or similar polymerization techniques, would produce polymers having the identical composition.”); *In re Fitzgerald*, 619 F.2d 67, 70-71, 205 USPQ 594, 596-97 (CCPA 1980); *In re Best*, 562 F.2d 1252, 1254-56, 195 USPQ 430, 432-34 (CCPA 1977) (“Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. See *In re Ludtke*, [441 F.2d 660, 169 USPQ 563 (CCPA 1971)]. Whether the rejection is based on “inherency” under 35 USC 102, on “prima facie obviousness” under 35 USC 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products. [Footnote and citation omitted.]”); *In re Skoner*, 517 F.2d 947, 950, 186 USPQ 80, 82 (CCPA 1975) (“Appellants have chosen to describe their invention in terms of certain physical characteristics Merely choosing to describe their invention in this manner does not render patentable their method which is clearly obvious in view of [the reference]. [Citation omitted.]”); *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972); cf. *Crown Operations International Ltd. v. Solutia, Inc.*, 289 F.3d 1367, 1372, 62 USPQ2d 1917, 1919

⁴ In the supplemental answer, the examiner interpreted the “means-plus-function” language of appealed claim 7 with respect to “corresponding structure” and “equivalent structure.” Appellants elected not to file a supplemental reply brief with respect to the examiner’s interpretation.

(Fed. Cir. 2002) (“Crown argued, because the structure, thickness and materials of the assembly were the same or within the same range(s), the Gillery patent must inherently disclose a two percent limitation. The district court rejected this argument because it found that none of the embodiments disclosed by the Gillery patent meet the two percent visible light reflectance limit.”); *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) (“[T]he Board’s analysis rests upon the very kind of probability or possibility – the odd use of fasteners with other than their mates – that this court has pointed out is insufficient to establish inherency.”).

Here, for the reasons pointed out by appellants in the brief (page 6, last paragraph, through page 7, first paragraph) and reply brief (page 3 through page 5), the examiner has not established as a matter of fact that, *prima facie*, it would have reasonably appeared to one skilled in this art, even armed with the knowledge in the art acknowledged in appellants’ specification on which the examiner relies, that the magnetic recording media of Ohkijima Example 26 would in fact meet each and every limitation of the rejected appealed claims. Indeed, the examiner has not explained how Ohkijima Example 26, which is disclosed in Table 1-1 to have very little saturation magnetic flux density and thus, would have markedly minimal or no magnetic influence as taught by Ohkijima (e.g., col. 4, lines 38-42), would exhibit the required SMNR in the context of the magnetic recording medium as a whole.

Accordingly, because the examiner has not established a *prima facie* case of anticipation of the rejected appealed claims within the meaning of § 102(b), we reverse this ground of rejection.

Turning now to the grounds of rejection under § 103(a), it is well settled that in order to establish a *prima facie* case of obviousness under § 103(a), the examiner must show that some objective teaching, suggestion or motivation in the applied prior art taken as a whole and/or knowledge generally available to one of ordinary skill in this art would have led that person to the claimed invention as a whole, including each and every limitation of the claims arranged as required by the claims, without recourse to the teachings in appellant’s disclosure. *See generally, In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir.

1996); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988); *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (“The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that [the claimed process] should be carried out and would have a reasonable likelihood of success viewed in light of the prior art. [Citations omitted] Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant’s disclosure.”); *see also In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981)(“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”).

Appellants essentially limit their arguments to the combination of Moroishi, Miyazaki and Zhang in the brief and reply brief. Appellants submit that there is no basis to combine the three applied references because the magnetic media disclosed in each have different structures for different purposes (brief, pages 10-11). In this respect appellants point out that “[i]n the particular structure disclosed by [Moroishi], optimum magnetic properties are achieved by employing a non-magnetic spacer layer,” in the structure of Zhang, “which is a double layer film, the first magnetic film seeds the microstructure for the upper magnetic film and determines the noise characteristics of the double layer,” and in the structure of Miyazaki, “at least two ferromagnetic thin films are formed by oblique deposition apparently one directly on the other and the oxygen content is varied” (*id.*; original emphasis deleted). Appellants further submit that the examiner has not indicated which of the multiple magnetic layers that can be present in the structure of Moroishi correspond to the first and second magnetic layers specified in the appealed claims (*id.*). Appellants find that “[a]ccording to the claimed invention, the first magnetic layer is on the underlayer,” as it would appear to be so in Moroishi, and thus in the structure taught in the reference “the second magnetic layer would be separated from the first magnetic layer by a non-magnetic layer,” and that in the “double layer structure” of Zhang, “the second layer must be deposited on the first layer because the first layer ‘not only seeds the microstructure for the upper

layer film, but also determines the noise characteristics of the double-layer film' (Abstract)" (*id.*, pages 11-12; original emphasis deleted).

The examiner replies that the knowledge to modify the alloy structures of the magnetic layers was known in the art as acknowledged by appellants at page 4, ll. 12-21, of the specification (answer, pages 15-16). The examiner further contends that the structure of Moroishi falls within the appealed claims, and the combined teachings of the three references would have suggested "that the lower magnetic layer should be optimized for SMNR ([Zhang]) and that the upper magnetic layer should be optimized for Ms [(magnetic saturation)] ([Miyazaki])," arguing that the "singularly disclosed methods to achieve optimization does not remove the knowledge that such optimization is desired, regardless of how one of ordinary skill would go about obtaining the improved SMNR and Ms values" (*id.*, page 16-17; original emphasis deleted). The examiner finally contends that the "claims are open to additional layers being present, including non-magnetic spacer layers between the magnetic layers," and the prior art recognizes such structure as seen from Moroishi along with "dual magnetic layers . . . adjacent to each other" as seen from Zhang, with the "spacer layers used to optimize . . . adjacent magnetic domains on adjacent magnetic layers" which is important to good SMNR and other properties, pointing to Moroishi col. 6, ll. 28-40 (*id.*). On this basis, the examiner concludes that the structure of Moroishi "is analogous to the dual layered structures disclosed by appellants and Zhang," and the optimization of SMNR and MS would not be affected by the presence or absence of non-magnetic spacer layers (*id.*).

In reply, appellants maintain that the examiner has not provided factual support for the contention that "one of ordinary skill in the art would have been realistically impelled to structure a magnetic recording medium" having the two layer specified in the appealed claims (reply brief, pages 7-8). In this respect, appellants point out that it is the differences between the structures disclosed in the prior art references, and not between the claimed and prior art structures, which is the basis for their arguments in the brief, and the facts must have suggested that the features of one reference can be used to modify the features of another reference with a reasonable expectation of success (reply brief, pages 8-9).

On the factual record before us, taken in light of the arguments advanced by appellants and the examiner, we agree with appellants. We find that the teachings with respect to the structure and the properties of the magnetic recording media in *each* of the applied references would have been considered by one of ordinary skill in this art in the context of the magnetic recording media as a whole of that reference.⁵ Indeed, we find that one of ordinary skill in this art would have recognized from the substrate-nonmagnetic underlayer-magnetic layer-nonmagnetic spacer layer-magnetic layer structure of the magnetic recording media of Moroishi, the NiP/Al substrate-nonmagnetic underlayer-magnetic layer-magnetic layer structure of the magnetic recording media of Zhang and the polymer tape substrate-oblique deposited magnetic layer-magnetic layer structure of the magnetic recording media of Miyazaki, a different relationship between the layers in terms of manufacture and resulting properties. Thus, because there is no apparent objective teaching in the three references which would have provided one of ordinary skill in this art with a reasonable suggestion or motivation to replace each of the first and second magnetic layers, separated by a spacer, of the magnetic recording media of Moroishi with a single magnetic layer taken from the magnetic recording media of each of Zhang and Miyazaki, respectively, with the reasonable expectation of making such modifications and successfully obtaining the properties suggested for that layer, the burden is on the examiner to supply such motivation or suggestion as well as the reasonable expectation of success in order to establish a *prima facie* case of obviousness.

We determine that the examiner has not satisfied this burden by merely alleging that one of ordinary skill in this art would have recognized a desirable property in the magnetic recording media of one reference and would have considered it desirable to include this property in the magnetic recording media of the second reference, relying on the general knowledge of this person with respect to particular atomic content of a layer and the general properties associated therewith as acknowledged by appellants to make such modifications. *See Smith Industries*

⁵ It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, *see In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

medical Systems, Inc. v. Vital Signs, Inc., 183 F.3d 1347, 1356, 51 USPQ2d 1415, 1420-21 (Fed. Cir. 1999); *Rouffet, supra*; *In re Mayne*, 1043 F.3d 1339, 1342, 41 USPQ2d 1451, 1454 (Fed. Cir. 1997); *Pro-Mold, supra*; *Dow Chem., supra*; *Ashland Oil, Inc., v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985); *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 9292, 933 (Fed. Cir. 1984); *Keller, supra*; *In re McLaughlin*, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

Accordingly, in the absence of a *prima facie* case of obviousness based on the combination of Moroishi, Miyazaki and Zhang, we reverse the grounds of rejection under § 103(a).

The examiner's decision is reversed.

Remand

Pursuant to our authority under 37 CFR §§ 41.50(a)(1) and 41.50(b)⁶ we remand this application to the examiner to compare the claimed magnetic recording media encompassed by all of the claims of record with Zhang, along with any other applicable prior art developed in this respect, and enter such ground or grounds of rejection under the appropriate statutory provision as the examiner considers necessary. See the discussion in the answer and the brief of the magnetic recording media that would have been disclosed by Zhang to one of ordinary skill in this art.

Accordingly, the examiner is required to take appropriate action consistent with current examining practice and procedure consistent with the above.


We hereby remand this application to the examiner, via the Office of a Director of the Technology Center, for appropriate action in view of the above comments.

⁶ Effective September 13, 2003; 69 Fed. Reg. 49960 (August 12, 2004); 1286 Off. Gaz. Pat. Office 21 (September 7, 2004). This remand is not for the purpose of further consideration of a rejection advanced on appeal, and accordingly, the provisions of 37 CFR § 41.50(a)(2) do not apply.

This application, by virtue of its “special” status, requires immediate action. *See* MPEP § 708.01(D) (8th ed., Rev. 2, May 2004; 700-127). It is important that the Board of Patent Appeals and Interferences be informed promptly of any action affecting the appeal in this case. *See, e.g.,* MPEP§ 1211 (8th ed., Rev. 2, May 2004; 1200-30).

Reversed

Remanded


CHARLES E. WARREN

CHARLES F. WARREN
Administrative Patent Judge

Terry J. Owens

TERRY J. OWENS
Administrative Patent Judge

THOMAS A. WALTZ

THOMAS A. WALTZ
Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

Appeal No. 2004-1691
Application 09/702,667

McDermott, Will & Emery
600 13 Street NW
Washington, DC 20005-3096